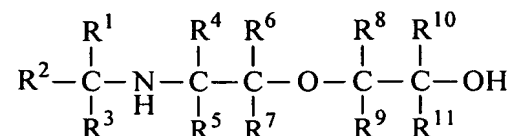
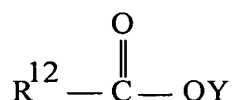


## AMENDMENTS TO THE CLAIMS

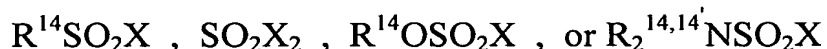
1. (original) A method for the synthesis of severely sterically hindered secondary aminoether alcohols of the formula



wherein  $R^1$  and  $R^2$  are each selected from the group consisting of alkyl, hydroxyalkyl radicals having 1 to 4 carbon atoms or in combination with the carbon atom to which they are attached they form a cycloalkyl group having 3 to 8 carbon atoms, and  $R^3$  is selected from the group consisting of hydrogen, alkyl hydroxyalkyl radicals having 1 to 4 carbon atoms, and mixtures thereof, and  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are the same or different and are selected from the group consisting of hydrogen, alkyl and hydroxyalkyl radicals having 1 to 4 carbons provided that at least one of  $R^4$  or  $R^5$  bonded to the carbon atom directly bonded to the nitrogen atom is an alkyl or hydroxyalkyl radical when  $R^3$  is hydrogen, the process involving reacting an organic carboxylic acid or salt of a carboxylic acid of the formula

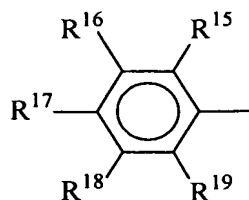


wherein  $R^{12}$  is selected from the group consisting of alkyl radicals having 1 to 4 carbon atoms, aryl radicals bearing hydrogen or one or more  $C_1$ - $C_{10}$  alkyl groups substituted thereon, and mixtures thereof, and Y is selected from the group consisting of hydrogen, alkali metal, ammonium, and mixtures thereof, with a sulfonyl halide, a sulfonyl halide, a mixed sulfonyl ester halide, or a mixed sulfonyl amide halide of the formula

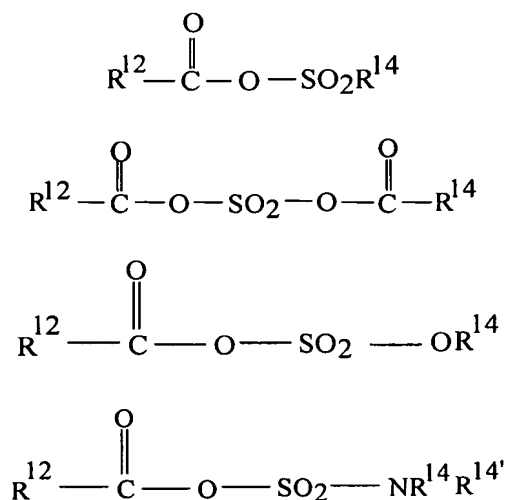


wherein X is selected from the group consisting of F, Cl, Br, I, and mixtures thereof, and  $R^{14}$  and  $R^{14'}$  are the same or different and each is selected from the group consisting of alkyl radicals having 1 to 4 carbon atoms, haloalkyl radicals of the formula  $C_nH_{(2n+1)-w}Z_w$

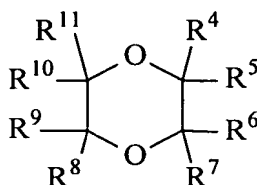
wherein n is 1 to 4, Z is selected from the group consisting of F, Cl, Br, I, and mixtures thereof, and w ranges from 1 to 5, and aryl radicals



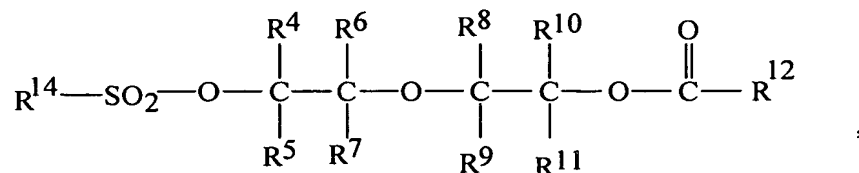
wherein R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup>, and R<sup>19</sup> are the same or different and are selected from hydrogen and alkyl radicals having 1 to 20 carbon atoms, and mixtures thereof, to yield acyl sulfonate material of the general formula

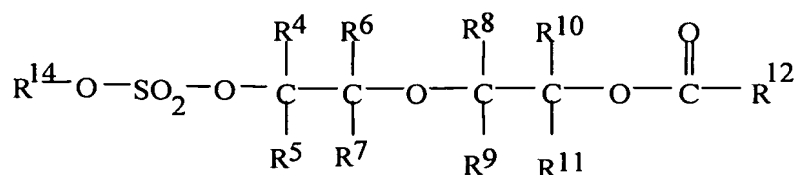
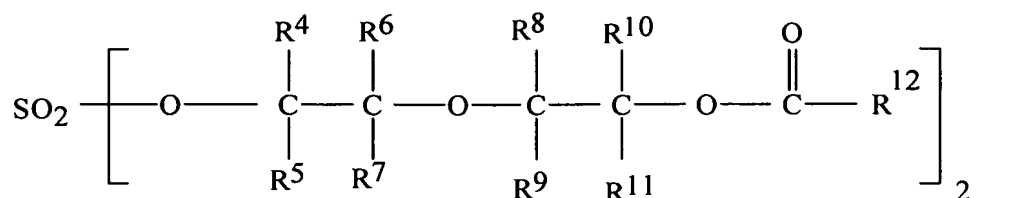


which is then reacted with a dioxane of the formula

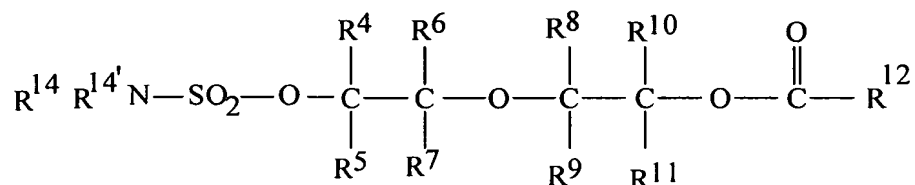


wherein R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, and R<sup>11</sup> are the same or different and are selected from hydrogen, alkyl and hydroxyalkyl radicals having 1 to 4 carbons to yield

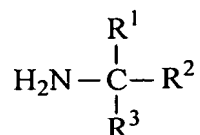




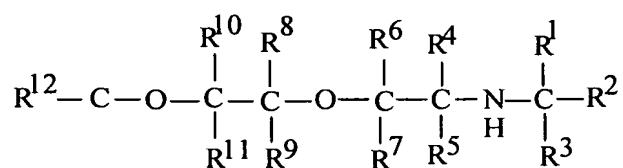
or



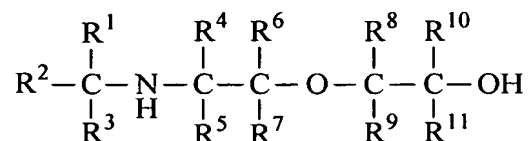
which is then aminated with an alkylamine of the formula



wherein  $\text{R}^1$ ,  $\text{R}^2$ , and  $\text{R}^3$  are as previously defined to yield



which is then hydrolyzed with base to yield



2. (original) The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using sulfonyl halide of the formula  $\text{R}^{14}\text{SO}_2\text{X}$ .

3. (original) The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using sulfuryl halide of the formula  $\text{SO}_2\text{X}_2$ .

4. (original) The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using the mixed sulfuryl ester halide of the formula  $\text{R}^{14}\text{OSO}_2\text{X}$ .

5. (original) The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using the mixed sulfuryl amide halide of the formula  $\text{R}_2^{14,14'}\text{NSO}_2\text{X}$ .

6. (currently amended) The method of according to ~~any one of the preceding claims~~ claim 1, 2, 3, 4 or 5 wherein  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  are methyl radicals.

7. (currently amended) The method of according to ~~any one of the preceding claims~~ claim 1, 2, 3, 4 or 5 wherein  $\text{R}^4$ ,  $\text{R}^5$ ,  $\text{R}^6$ ,  $\text{R}^7$ ,  $\text{R}^8$ ,  $\text{R}^9$ ,  $\text{R}^{10}$ , and  $\text{R}^{11}$  are hydrogen.

8. (currently amended) The method of according to ~~any one of the preceding claims~~ claim 1, 2, 3, 4 or 5 wherein  $\text{R}^{15}$ ,  $\text{R}^{16}$ ,  $\text{R}^{18}$ , and  $\text{R}^{19}$  are hydrogen and  $\text{R}^{17}$  is hydrogen or methyl.

9. (currently amended) The method of according to ~~any one of the preceding claims~~ claim 1, 2, 3, 4 or 5 wherein the base is selected from alkali metal hydroxide, alkali metal alkoxide, or alkali metal carbonate.

10. (currently amended) The method of according to ~~any one of the preceding claims~~ claim 1, 2, 3, 4 or 5 wherein Y is hydrogen or sodium.

11. (currently amended) The method of according to ~~any one of the preceding claims~~ claim 1, 2, 3, 4 or 5 wherein  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  are methyl,  $\text{R}^4$ ,  $\text{R}^5$ ,  $\text{R}^6$ ,  $\text{R}^7$ ,  $\text{R}^8$ ,  $\text{R}^9$ ,  $\text{R}^{10}$ , and  $\text{R}^{11}$  are hydrogen,  $\text{R}^{15}$ ,  $\text{R}^{16}$ ,  $\text{R}^{18}$ , and  $\text{R}^{19}$  are hydrogen,  $\text{R}^{17}$  is hydrogen or methyl, and Y is hydrogen, sodium, or ammonium.

12. (currently amended) The method of according to ~~any one of the preceding claims~~ claim 1, 2, 3, 4 or 5 wherein the acyl sulfonate is made by reacting organic carboxylic acid or the salt of a carboxylic acid with the sulfonyl halide, sulfuryl halide, mixed sulfuryl ester halide or mixed sulfuryl amide halide at a temperature in the range of between about -20 to 200°C at a pressure between about 1 bar and 100 bars, the acyl sulfonate is reacted with the dioxane at a molar ratio of dioxane to acyl sulfonate in the range of 1:1 to 10:1 at a temperature of between about 50°C to about 200°C to yield a cleavage product, the cleavage product and the alkyl amine reacted at an amine to sulfonate group ratio ranging from about stoichiometric to about 10:1 at pressure of from about atmospheric (1 bar) to about 100 bars at temperature of from about 40°C to about 200°C, and the resulting aminated product is hydrolyzed with base at a temperature from about 20°C to about 110°C.

13. (currently amended) The method of according to ~~any one of the preceding claims~~ claim 1, 2, 3, 4 or 5 wherein the organic carboxylic acid or the salt thereof, the sulfonyl halide, sulfuryl halide, mixed sulfuryl ester halide or mixed sulfuryl amide halide and the dioxane are combined in a single step to produce a reaction mixture, the reaction mixture being heated at a temperature of between about 50°C to about 200°C to produce the cleavage product, the cleavage product and the alkylamine are reacted at an amine to cleavage product ratio ranging from about stoichiometric to about 10:1 at a pressure from about atmospheric (1 bar) to about 100 bars at a temperature of from about 40°C to about 200°C, the resulting aminated product being reacted with base at a temperature from about 20°C to about 110°C.

U.S. National Phase of PCT/US2005/003052  
Preliminary Amendment  
Family Number: P2004J004

Applicants request that the present application be examined on the basis of the above presented amended claims.

Respectfully submitted,



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☒ Pursuant to 37 CFR 1.34(a)

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7/18/06